CLAIMS

What is claimed is:

1. An active damper for a stabilized mirror, said active damper comprising:

a tachometer measuring speed of a motor driving the mirror;

compensation electronics receiving input from said tachometer and the motor; and

drive electronics providing output to the motor.

2. The active damper of claim 1 wherein said electronics comprise an AC coupled rate loop.

3. The active damper of claim 2 wherein said electronics provide nearly zero phase shift at lower and upper crossover frequencies of a damper control loop.

4. The active damper of claim 1 wherein said active damper operates on a stabilized mirror in a gimbal.

5. The active damper of claim 1 wherein said active damper dampens a belt mode.

6. The active damper of claim 5 wherein said active damper dampens a belt mode at a frequency between approximately 240 Hz to 700 Hz.

7. The active damper of claim 6 wherein said active damper provides at least approximately 70% dampening of a drive belt mode.

8. The active damper of claim 5 wherein said active damper is substantially insensitive to belt frequency.

9. The active damper of claim 1 wherein said active damper is substantially insensitive to changes in temperature.

10. The active damper of claim 1 wherein said active damper does not affect operation of the mirror at frequencies at or below approximately one-half of a belt mode frequency.

11. An active damping method for a stabilized mirror, the method comprising the steps of:

providing a tachometer measuring speed of a motor driving the mirror;

employing compensation electronics receiving input from said tachometer and the motor; and

employing drive electronics providing output to the motor.

12. The method of claim 11 wherein the electronics comprise an AC coupled rate loop.

13. The method of claim 12 wherein the electronics provide nearly zero phase shift at lower and upper crossover frequencies of a damper control loop.

14. The method of claim 11 wherein the method operates on a stabilized mirror in a gimbal.

15. The method of claim 11 wherein the method dampens a belt mode.

16. The method of claim 15 wherein the method dampens a belt mode at a frequency between approximately 240 Hz to 700 Hz.

17. The method of claim 16 wherein the method provides at least approximately 70% dampening of a drive belt mode.

18. The method of claim 15 wherein the method is substantially insensitive to belt frequency.

19. The method of claim 11 wherein the method is substantially insensitive to changes in temperature.

20. The method of claim 11 wherein the method does not affect operation of the mirror at frequencies at or below approximately one-half of a belt mode frequency.